

# United States Patent [19]

Daeges et al.

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[54] PIEZOELECTRICALLY EXCITABLE RESONANCE SYSTEM

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[30] Foreign Application Priority Data

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[52] U.S. Cl. 310/323; 239/102.2; 310/335

[58] Field of Search 310/321-323, 310/325, 328, 335, 336, 337, 369; 239/102.1, 102.2; 134/1

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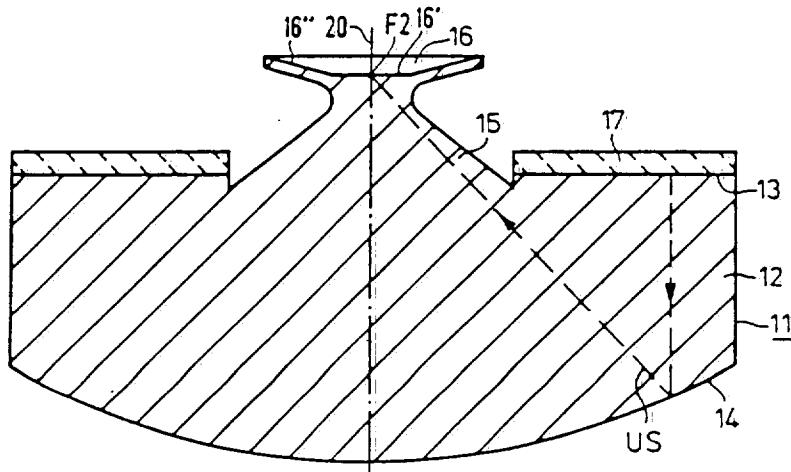
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[57] ABSTRACT

For generating liquid droplets which may pass into the lungs of a person, a resonance system is used which contains a rotation-symmetrical metal body with a disc-shaped base plate, a working plate, a neck connecting the working plate to the base plate as well as a piezoelectric vibrator. The vibrator is coupled to the plane base surface which extends perpendicularly to the symmetry axis of the metal body. The base plate is also provided with a parabolic reflector surface. The center of the working plate is in the vicinity of the reflector focal point, optionally mirrored with respect to the base area of the base plate, of the parabolic reflector surface. In this design, ultrasound waves excited by the vibrator are focused into the region of the working plate, thereby atomizing a liquid which is held by the working plate.

12 Claims, 1 Drawing Sheet



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